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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,102	04/05/2001	Robert H. Rines		9742

7590

10/06/2004

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EXAMINER

PAK, JOHN D

ART UNIT

PAPER NUMBER

1616

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/827,102

Applicant(s)

RINES ET AL.

Examiner

JOHN PAK

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
4a) Of the above claim(s) 18-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claims 1-34 are pending in this application.

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-17, drawn to water releasing ice-crystal-like-appearing gel with an aqueous plant nutrient solution, and method of making said gel, classified in class 504, subclass 366+.
- II. Claim 18, drawn to method of making and using a water releasing ice-crystal-like-appearing gel with no specified plant nutrient, wherein the gel source is a "water-insoluble but super-absorbent polyacrylate polymer powder," classified in class 424, subclasses 400, 456, 484+.
- III. Claims 21-34 and 19-20, drawn to method of promoting plant growth with a "water-insoluble, but super-absorbing" polyacrylate polymer powder additive and method of making a composition thereof, classified in class 71, subclass 64.09, class 424, subclass 78.08+, class 504, subclass 366.

The three inventions as set forth above are distinct over the others. A gel without a plant nutrient solution (group II) is any gel that can be found in a plethora of industries. The gel with a plant nutrient solution (group I) is directed to agricultural or horticultural field of endeavor. Distinctness is shown by the separate subjects for inventive effort. Group III utilizes a specialized "water-insoluble, but super-absorbing" polyacrylate polymer powder additive, and it is this use of a specialized ingredient that

renders the invention distinct over Group I, in addition to the fact that a plant nutrient is not necessarily required in Group II.

To search and examine the multiple inventions in this application would place an undue burden on the Examiner if the restriction were not required. The various inventions require divergent searching, as evidenced in part by their separate classifications. A non-patent literature search for each of the inventions would require separate queries and separate review of the prior art. In view of the long and extensive history and collection size of prior art documents related to plant growth aid materials, a search for just one of the inventions would already be of sufficient burden. A search for more than one of the distinct invention groups would place an undue burden on the Examiner.

During a telephone conversation with Mr. Robert Rines on 9/22/2004 a provisional election was made with traverse to prosecute the invention of Group I.

At this point, a clarification is in order with regard to the placement of claims 19-20 in Group III in this Office action. During the telephone conversation with Mr. Rines, the Examiner initially informed Mr. Rines that Group I would contain claims 19-20. However, upon closer review, it was subsequently recognized that claims 19-20 utilize the "water-insoluble, but super-absorbing" polyacrylate powder that is the distinguishing feature of Group III. Therefore, claims 19-20 actually belong with Group III, which is specific to use of such super-absorbing polyacrylate powders. The Examiner was not

able to reach Mr. Rines by the time this Office action became due, so an examination on the merits has been conducted based on the election of Group I, "composition and method for gel + plant nutrient," wherein Group III is clearly distinguished by its use of "super-absorbing polyacrylate polymer powder."

Affirmation of this election must be made by applicant in replying to this Office action. Claims 18-34 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. Claims 1-17 will presently be examined.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Applicant is requested to clarify the continuation data on the first page of the specification. A Divisional designation cannot apply to an application that actually has a CIP relationship. Updated patent numbers for related applications are also suggested.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(1) All claims read on an "ice-crystal-like-appearing gel." The basis for this ground of rejection is that such a phrase is unclear and indefinite. It cannot be determined where the metes and bounds of such a gel substance lie, given modifying terms such as "like" and "appearing." Even by itself, the Examiner would argue that the "ice crystal" description is vague and indefinite for a gel. Additional modifying terms, like and appearing, make it even more vague and indefinite. One skilled in the art would not be able to readily determine whether a given gel would fall within or outside the scope of the claimed invention.

(2) Applicant is requested to verify that claim 17 is intended to encompass volume ratio of soil:zeolite = 1:1 to 1:0.3, meaning that volume of zeolite could be the same as the volume of soil.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 7-12, 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes (US 4,985,062) in view of Carson (GB 2134507).

Hughes disclose aqueous polyacrylate gels that provide increased plant yields (column 4, lines 40-56; Example 1 on column 8; column 11, line 15 to end of column 12; column 13, lines 35-68). Incorporation of fertilizer functionality is exemplified (column 12, lines 4-9).

Carson discloses the incorporation of zeolites in an aqueous plant growth medium (first page of text, lines 34-38). The zeolite is charged with nutrient substances by contacting the zeolite with an aqueous solution of the nutrient and drying the zeolite (second page of text, lines 16-28). Particle size is selected to suit the desired rate of release of active components of the zeolite (first page of text, lines 56-63). The growing medium comprises a carrier for the zeolite, such as an aqueous medium (first page of text, lines 72-77). Extensive list of plant nutrient substances that may be incorporated is disclosed (first page of text, lines 90-116).

The difference between the claimed invention and the cited references is that the references do not explicitly disclose incorporating zeolite crystals or the specific plant nutrients of applicant's claims at the claimed ratio of ingredients and application proportions. Additionally, Hughes' polyacrylate gel is not explicitly stated as having a "ice-crystal-like-appearing" feature.

The Examiner has already established that the "ice-crystal-like-appearing" feature is vague and indefinite. To that extent, it is the Examiner's position in this ground of rejection that this feature fails to distinguish over Hughes' prior art polyacrylate gel base because the metes and bounds of said feature cannot be determined. As for the "entrapped water-insoluble polyacrylate crystals dispersed therein" feature, it is the Examiner's position that Hughes' polyacrylate gel would necessarily possess such a feature because Hughes' gel has been taught to "not bind the water to such an extent that the water in the aqueous gel is unavailable to plant" (column 15, lines 45-47).

Incorporation of zeolite crystals and water based chemical nutrients would have been fairly suggested to the ordinary skilled artisan from Hughes' teaching of incorporating fertilizers in his polyacrylate gel and Carson's teaching of fertilizer-charged zeolite particles. Use of the well known fertilizer $N_2-P_2O_5$ or mixture ratio such as $\frac{1}{4}$ teaspoon polyacrylate powder for 4 oz nutrient solution is held to be well within the skill of the ordinary skilled artisan, who is knowledgeable in the art of making a plant nutrient gel after being taught by Hughes that polyacrylate gels may contain fertilizers such as N, P_2O_5 and K_2O (note 1 to table I on column 11 in view of column 12, lines 7-9). As for dispersing into soil at a soil to zeolite crystal volume ratio of 1 to 0.3, such usage would have been suggested from the necessity and condition of the soil for plant growth

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improvement. A fertilizer-charged zeolite containing polyacrylate gel would have been expected to be dispersed into the soil for plant growth improvement purposes.

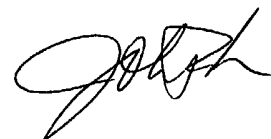
Therefore, the claimed invention, as a whole, would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, because every element of the invention and the claimed invention as a whole have been fairly disclosed or suggested by the teachings of the cited references.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to JOHN PAK whose telephone number is **(571)272-0620**. The Examiner can normally be reached on Monday to Friday from 8 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's SPE, Gary Kunz, can be reached on **(571)272-0887**.

The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-1600.



JOHN PAK
PRIMARY EXAMINER
GROUP 1000